CURRICULUM VITAE

Francesca Fortuna

PERSONAL INFORMATIONS:

Date of birth: 7th July, 1980
Place of birth: Lanciano (CH), Italy
Address: via G. Rossini, 15, 66100 Chieti (CH), Italy
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ACADEMIC POSITIONS

1 April 2020 (actual position)
Fixed term full-time researcher (RTDB) in Statistics SESCS-S/01
Department of Economy,
University "Roma Tre" of Rome (Italy)

From 1 April 2015 to 31 March 2019
Post Doc Research Fellow in Statistics SESCS-S/01
Department of Philosophical, Pedagogical and Economic-Quantitative Sciences (DISFIPEQ),
University "G. d'Annunzio" of Chieti-Pescara (Italy)
Topic: "Functional analysis for the evaluation of environmental and biological problems"
Tutor: Prof. Tonio Di Battista

AWARDS & RECOGNITIONS

- 10 September 2019 - 10 September 2025
  National Scientific Qualification to function as Associate Professor of Statistics- Scientific Sector: 13/D1 (ASN 2018-2020)
  After the evaluation of the Italian National Agency for the Assessment of the University System (ANVUR)

- August 2018
  Scholarship winner for the 2018 CRoNoS Summer Course on Functional Data Analysis

VISITING

12 March 2017 - 31 July 2017
Full time visiting researcher
Department of Statistics and I.O., Faculty of Sciences, University of Granada, Spain
Project: "Analysis of variance for functional data"
Tutor: Prof. Ana Maria Aguilera

RESEARCH PROJECTS

- *January 2018 - to date*
  Research project (PRIN 2017-2020): "Complex space-time modeling and functional analysis for

probabilistic forecast of seismic events"
Operational unit RU4 component. Provider: Italian Ministry of Education, University and Research (MIUR), Scientific Manager: Prof. Verde Rosanna

- *April 2017 – to date*
  Research project: "Advances in FANOVA models"
  at the University of Granada, Spain.
  Scientific Manager: Prof. Ana Maria Aguilera

- *January 2017 – December 2019*
  Research project: "Functional analysis and classification methods for big data and data streams"
  Operational unit component of the research project (MIUR-ex 60%) at the "G. dAnnunzio" University of Chieti-Pescara.
  Scientific Manager: Prof. Tonio Di Battista

- *June 2018 – December 2018*
  Research project: "Development and applications of statistical models based on functional data analysis (FDA) for classification, forecasting, and monitoring of business phenomena over time"
  Operational unit component of the research project (MIUR-ex 60%) at the G. dAnnunzio University of Chieti-Pescara.
  Scientific Manager: Dott. Fabrizio Maturo

- *January 2017 – December 2019*
  Research project: "Cluster analysis using mixed models"
  Operational unit component of the research project (MIUR-ex 60%) at the G. dAnnunzio University of Chieti-Pescara.
  Scientific Manager: Prof. Stefano Antonio Gattone

- *January 2012 – December 2016*
  Research project: "Drawing samples for the evaluation of customer satisfaction"
  Operational unit component of the research project (MIUR-ex 60%) at the G. dAnnunzio University of Chieti-Pescara.
  Scientific Manager: Prof. Tonio Di Battista

EDUCATION

- *April 2014*
  PhD in "Economics and Statistics", University "G. d'Annunzio" of Chieti-Pescara (Italy)
  Thesis: "Parametric functional data analysis for biodiversity measures. Recent advancements in FDA framework."
  Tutor: Prof. Tonio Di Battista
  Final grade: Excellent

- *November 2009*
  Degree in "Methods on evaluation, prediction and control of socio-economic systems",
  University "G. d'Annunzio" of Chieti-Pescara (Italy)
  Thesis: "La biodiversitá lichenica. Un'indagine statistica nel comune di San Giovanni Teatino."
  Tutor: Prof. Luigi Ippoliti
  Final grade: 110/110 cum laude

- *April 2008*
  First Master Level in "Methods on evaluation, prediction and control of socio-economic systems",
  University "G. d'Annunzio" of Chieti-Pescara (Italy)
  Thesis: "Lo sviluppo socio-economico nelle regioni italiane. Tecniche di analisi multivariata."
  Tutor: Prof. Luigi Ippoliti
  Final grade: 110/110 cum laude

- *Febrary 2006*
  Degree in "Sociology", University "La Sapienza" of Rome (Italy)
  Thesis: "Niente di nuovo. Un'indagine sul passaggio dalla collaborazione coordinata e continuata al lavoro a progetto."
  Tutor: Prof. Fabrizio Pirro
  Final grade: 100/110

- *July 1999*
  Socio-Psico Pedagogical Maturity,
  Socio-Psico Pedagogical high school "Isabella Gonzaga" of Chieti (Italy)
  Final grade: 92/100.

TRAINING COURSES AND SUMMER SCHOOLS

- *31 August-2 September 2018*
  "2nd CRoNoS International Summer Course on Functional Data Analysis", Alexandru Ioan Cuza University of Iasi, Iasi, Romania)

- *16-20 July 2012*
  "5th SIPTA International Summer School on Imprecise probabilities: theories and applications", SIPTA (Society for Imprecise Probability: Theories and Applications)

- *10-14 October 2011*
  "Theory and practice of random effects models for longitudinal and multilevel data", Department of Statistics, "Giuseppe Parenti" University of Florence (Italy)

- *July 2011*
  Introduction to the use of STATA Software, "G. d'Annunzio" University of Chieti-Pescara (Italy).

- *June 2011 September 2011*
  English Course in Business & Economics, "G. d'Annunzio" University of Chieti-Pescara (Italy).

- *6-8 June 2011*
  "Introduction to the use of R" - XXVI edition, Department of Statistics, University La Sapienza of Rome (Italy).

- *16-20 May 2006*
  "Basic course of Statistical treatment of the data with the package SPSS 11.5 for Windows", Computer Centre of Sociology and Communication (C.I.S.C.), University "La Sapienza" of Rome (Italy)

WORK ESPERIENCES

- *2012 – 2014*
  Member of the Olympic of Statistics Committee – Management and Organization in the years 2012, 2013 and 2014, of three editions of the National Olympic of Statistics - Italian Statistical Society (SIS)

- *1 September 2010 – 31 December 2010*
  Research Fellows –Statistical unit analysis of the "Clinical Epidemiology of Cardiovascular Diseases" department - Fondazione Mario Negri Sud, Santa Maria Imbaro (CH), Italy. Topic: "Cardio-renal effects of renin angiotensis system inhibition in cardio-renal risk patients"

- *11 May 2009 – 31 December 2009*
  Research Fellows–Center of Environmental Sciences - Fondazione Mario Negri Sud, Santa Maria Imbaro (CH), Italy. Topic: "Innovative services in support of environmental improvement"

- *4 September 2006 – 26 January 2007*
  Research Assistant– Eurispes, Institute of Political, Economic and Social Studies, Rome, Italy
  Stage: Collaboration for the redaction of the "7th National Report on the Status of the Child" for Telefono Azzurro

- *25 October 2006 – 30 November 2006*
  Research Assistant– Eurispes, Institute of Political, Economic and Social Studies, Rome, Italy
  Stage: Collaboration for the redaction of the "Rapporto Italia 2007"

TEACHING ACTIVITIES

- *January 2020*
  Module for the course "Marketing, Statistics and Metrics" (30 hours), SECS-S/01, Degree Course in 'Digital Marketing' at the "G.d'Annunzio" University of Chieti-Pescara

- *July 2019*
  Course in "Demography" (6 CFU - 30 hours), SECS-S/04, Degree Course in 'Political science' at the University of Teramo

- *5-9 March 2018*
  Doctoral Course in "Human Sciences XXXIII" – curriculum Economics and Statistics for PhD students at the G. dAnnunzio University of Chieti-Pescara. Course: Basic Statistics with R (10 hours)
  Topics: "Elements of descriptive statistics; methods for assessing relationship between variables; introduction to the statistical software R".

- *From academic year 2016/2017 - To date*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Statistical models for finance" (Degree Course in 'Management, finance and development'). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Prof. Stefano Antonio Gattone

- *From academic year 2018/2019*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  – Course: "Business statistics" (Degree Course in 'Economy and Management'). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Prof. Stefano Antonio Gattone
  – Course: "Basic statistics" (Degree Course in 'Economy and Management'). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Prof. Stefano Antonio Gattone

- *From academic year 2012/2013 - To date*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Methods and Techniques for evaluation" (3-Years Degree Course in Pedagogical Sciences). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Prof. Tonio Di Battista

- *From academic year 2013/2014 - To date*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Introduction to Statistics" (3-Years Degree Course in Economy, Markets and Development). Holder of the chair: Prof. Tonio Di Battista

- *From academic year 2017/2018 - To date*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Statisics for education sciences" (3-Years Degree Course in "Sciences of Education"). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Dott. Cristiana Ceccatelli.

- *From academic year 2013/2014 - To academic year 2016/2017*
  Teaching Assistant, Tutor, and Commissioner for University examinations of the following courses G. dAnnunzio University of Chieti- Pescara:
  –Course: "Business Statistics" (3-Years Degree Course in Economics and Management). Holder of the chair: Prof. Tonio Di Battista
  – Course: Statistical Models and Business Decisions (3-Years Degree Course in Economics and Management). Holder of the chair: Prof. Tonio Di Battista
  – Course: Statistics for Economic Decisions (Degree Course in Economics and Management). Holder of the chair: Prof. Tonio Di Battista
  – Course: Statistics for Management (Degree Course in Economics and Management). Holder of the chair: Prof. Tonio Di Battista
  – Course: Statistics for Management II (Degree Course in Economics and Management). Holder of the chair: Prof. Tonio Di Battista

- *From academic year 2014/2015 - academic year 2016/2017*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Analysis and Evaluation of Educational Processes" (3-Years Degree Course in "Sciences of Education"). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Dott. Cristiana Ceccatelli.

- *From academic year 2013/2014 - To academic year 2015/2016*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Geostatistics" (Degree Course in Economics and Management). "G. dAnnunzio" University of Chieti-Pescara. Holder of the chair: Prof. Tonio Di Battista.

- *Academic year 2012/2013*
  Teaching Assistant, Tutor, and Commissioner for University examinations
  Course: "Statistics for Management" (3-Years Degree Course in Economics and Management). G. dAnnunzio University of Chieti-Pescara. Holder of the chair: Prof. Mauro Coli

SEMINAR ACTIVITIES

- *28 November 2019*
  Seminar: "Le prove di verifica nella valutazione: progettare, somministrare e misurare", seminar within the course "Statistics for Education", Department of Philosophical, pedagogical and economic-quantitative Sciences, 'G. d'Annunzio' University of Chieti-Pescara, Italy;

- *April 2019*
  Seminar: "Le prove di verifica nella valutazione: progettare, somministrare e misurare", seminar within the course "Statistics for Education", Department of Philosophical, pedagogical and economic-quantitative Sciences, 'G. d'Annunzio' University of Chieti-Pescara, Italy;

- *15 April 2018*
  Seminar: "Recent advances in Item Response Theory models: a functional approach", Department of Philosophical, pedagogical and economic-quantitative Sciences, 'G. d'Annunzio' University of Chieti-Pescara, Italy;

- *May 2018*
  Seminar: "Valutare competenze attraverso il metodo statistico", seminar within the course "Statistics for Education", Department of Philosophical, pedagogical and economic-quantitative Sciences, 'G. d'Annunzio' University of Chieti-Pescara, Italy;

- *April 2013*
  Seminar: "Assessing biodiversity profile through parametric Functional Data Analysis", Department of Philosophical, pedagogical and economic-quantitative Sciences, 'G. d'Annunzio' University of Chieti-Pescara, Italy;

REVIEWER ACTIVITY

- *October 2019 – To date*
  Reviewer with "PLOS ONE", ISSN 1932-6203

- *May 2018 – To date*
  Reviewer with "Electronic Journal of Applied Statistical Analysis", e-ISSN: 2070-5948

- *April 2018 – To date*
  Reviewer with "Ratio Mathematica", ISSN 1592-7415

SCIENTIFIC SOCIETIES

19 March 2018 – to date
Ordinary member of the Italian Statistical Society (SIS)

MAIN RESEARCH FIELDS

Functional data analysis, Ecological Diversity, Cluster analysis, Functional ANOVA, IRT models, Big data and data streams analysis.

PUBLICATIONS

Articles under review

1. Fortuna F., Di Battista T., Gattone, S.A., Functional Horvitz-Thompson estimator and asymptotic confidence bands for convex functions: an application to diversity profiles *Environmetrics*.

Articles in journals

1. Gattone, S.A., Caruso, G., **Fortuna F.**, Di Battista T., Cluster Analysis for mixed data: an application to credit risk evaluation, *Socio Economic Planning Sciences*, ISSN: 0038-0121, DOI: 10.1016/j.seps.2020.100850.

2. **Fortuna F.**, Di Battista T. (2020) Functional unsupervised classification of spatial biodiversity, *Ecological Indicators*, 111, ISSN: 1470-160, DOI: 10.1016/j.ecolind.2019.106027

3. Aguilera A.M., **Fortuna F.**, Escabias M., Di Battista T. (2019) Assessing social interest in burnout using Google Trends data, *Social Indicators Research*, ISSN: 0303-8300, DOI: 10.1007/s11205-019-02250-5

4. Maturo F., **Fortuna F.**, and Di Battista T. (2019) Testing Equality of Functions Across Multiple Experimental Conditions for Different Ability Levels in the IRT Context: the Case of the IPRASE TLT 2016 Survey. *Social Indicators Research*, 146: 19–39, ISSN: 0303-8300, DOI: 10.1007/s11205-018-1893-4

5. **Fortuna F.** and Maturo F. (2019) K-Means Clustering Item Characteristic Curves and Item Information Curves via Functional Principal Component Analysis. *Quality & Quantity*, 53(5):2291–2304, ISSN: 0033-5177, DOI: 10.1007/s11135-018-0724-7

6. **Fortuna F.**, Maturo F., and Di Battista T. (2018), Clustering Functional Data Streams: Unsupervised Classification of Soccer Top Players based on Google Trends. *Quality and Reliability Engineering International*, 34(7): 1448–1460, ISSN:0748-8017, DOI: 10.1002/qre.2333

7. Gattone S.A., Giordani P., Di Battista T., **Fortuna F.** (2018), Adaptive cluster double sampling with post stratification with application to an epiphytic lichen community. *Environmental and Ecological Statistics*, 25(1):125–138, ISSN: 1352-8505, DOI: 10.1007/s10651-017-0388-9;

8. Di Battista T., **Fortuna F.** (2017), Functional confidence bands for lichen biodiversity profiles: a case study in Tuscany region (central Italy). *Statistical analysis and data mining*, The ASA Data Sci Journal, 10(1): 21-28; ISSN: 1932-1872, DOI: 10.1002/sam.11334

9. Di Battista T., **Fortuna F.**, Maturo F. (2017), BioFTF: an R package for functional biodiversity tools. *Ecological Indicators*, 73: 726-732, ISSN: 1470-160, DOI: 10.1016/j.ecolind.2016.10.032

10. Di Battista T., **Fortuna F.**, Maturo F. (2016), Parametric functional analysis of variance for fish biodiversity assessment. *Journal of Environmental Informatics*, 28(2): 101-109, ISSN: 1726-2135, DOI: 10.3808/jei.201600348

11. Di Battista T., **Fortuna F.** (2016), Clustering dichotomously scored items through functional data analysis. *Electronic Journal of Applied Statistical Analysis*, 9 (2): 433-450, e-ISSN: 2070-5948, DOI: 10.1285i20705948v9n2p433

12. Di Battista T., **Fortuna F.**, Maturo F. (2016), Environmental monitoring through functional biodiversity tools. *Ecological Indicators*, 60: 237-247, ISSN: 1470-160X, DOI:10.1016j.ecolind.2015.05.056

13. Di Battista T., **Fortuna F.**, Maturo F. (2015), Diversity in regional economics: a case study of Abruzzo. *Global & Local Economic Review*, 19 (1): 37-54, ISSN: 1722-4241

14. Di Battista T., **Fortuna F.** (2013), Assessing biodiversity profiles through FDA. *Statistica*, 3(1): 69-85, ISSN: 1973-2201, DOI:10.6092issn.1973-22013986

15. Ceccatelli C., Di Battista T., **Fortuna F.**, Maturo F. (2013) Best practice to improve the learning of statistics: the case of the National Olympics of Statistics in Italy. *Procedia -Social and Behavioral Sciences*, 93(21): 2194-2199, ISSN: 1877-0428, DOI:10.1016/j.sbspro.2013.10.186

16. Ceccatelli C., Di Battista T., **Fortuna F.**, Maturo F. (2013) L'Item Response Theory come strumento di valutazione delle eccellenze nella scuola. *Science & Philosophy*, 1(1): 143-156, ISSN: 22827757, DOI:10.131402.1.1356.9283

Book chapters

1. Balzanella, A., Romano, E., Verde, R., Fortuna, F., Maturo, F., Gattone, S. A., Di Battista, T. (2019) Monitoring the spatial correlation among functional data streams through Morans Index. In: Petrucci A., Racioppi F., Verde R. (eds), New Statistical Developments in Data Science, Springer, ISBN: 978-3-030- 21158-5

2. Caruso G., Fortuna F., (2020) Mediterranean diet Patterns in the Italian Population: a functional data analysis of Google Trends. In: Studies in Systems, Decision and Control Contributed volume: Decisions and Trends in Social Systems. Innovative and Integrated Approaches of Care Service, Springer. Accepted (To appear)

3. Caruso G., Gattone S.A., **Fortuna F.**, Di Battista T. (2018) *Cluster analysis as a decision-making tool: A methodological review.* In: *Advances in Intelligent Systems and Computing*, pp 48-55, Springer, ISSN:2194-5357

4. Di Battista T., De Sanctis A., **Fortuna F.** (2016), *Clustering Functional Data on Convex Function Spaces.* In: Di Battista, T., Moreno, E., Racugno, W., (eds.), Topics on Methodological and Applied Statistical Inference, Studies in Theoretical and Applied Statistics, pp 105-114, Springer International Publishing Switzerland, ISSN: 2194-7767, DOI: 10.1007978-3-319-44093-4_11

5. Maturo F., **Fortuna F.** (2016), *Bell-Shaped Fuzzy Numbers Associated with the Normal Curve*. In: Di Battista, T., Moreno, E., Racugno, W., (eds.), Topics on Methodological and Applied Statistical Inference, Studies in Theoretical and Applied Statistics, pp 131-144, Springer International Publishing Switzerland, ISSN: 2194-7767, DOI: 10.1007978-3-319-44093-4_13

Proceedings

1. **Fortuna, F.**, Caruso, G., Di Battista, T. (2019), A functional data analysis of Google Trends on health and wellness. In: Carpita M., Fabbris L. (Eds), ASA Conference 2019, Statistics for Health and Well-being, Book od Short Papers, University of Brescia, September 25-27, 2019; pp. 105-108, CLEUP sc, Cooperativa Libraria Editrice University of Padova, ISBN: 978-88-5495-135-8;

2. Aguilera, A.M., **Fortuna, F.**, Escabias, M. (2019), Assessing social interest in burnout using functional data analysis through google trends. In: Porzio G.C., Greselin F., Balzano S. (Eds), CLADAG 2019, Book of Short Papers, pp. 16-19, Centro Editoriale di Ateneo, Universit di Cassino e del Lazio Meridionale, ISBN: 978-88-8317-108-6;

3. **Fortuna, F.**, Maturo, F., Di Battista, T. (2019), Biodiversity spatial clustering. In: Porzio G.C., Greselin F., Balzano S. (Eds), CLADAG 2019, Book of Short Papers, pp. 203-206, Centro Editoriale di Ateneo, Universit di Cassino e del Lazio Meridionale, ISBN: 978-88-8317-108-6;

4. Maturo, F., **Fortuna, F.**, Di Battista, T. (2019), Unsupervised fuzzy classification for detecting similar functional objects. In: Porzio G.C., Greselin F., Balzano S. (Eds), CLADAG 2019, Book of Short Papers, pp. 339-342, Centro Editoriale di Ateneo, Universit di Cassino e del Lazio Meridionale, ISBN: 978-88-8317-108-6;

5. **Fortuna, F.**, Di Battista, T., Gattone, S., Caruso, G. (2019), Evaluating tourism demand using search queries and functional models. In: Bini M., Amenta P., DAmbra A., Camminatiello I. (Eds), Statistical Methods for Service Quality Evaluation, Book of short papers of IES 2019, Rome, Italy, July 4-5; pp. 58-61, Cuzzolin s.r.l., Napoli, ISBN: 978-88-86638-65-4;

6. Caruso, G., Gattone, S., Di Battista, T., **Fortuna, F.** (2019), Cluster Analysis for mixed data: an application to credit risk evaluation. In: Bini M., Amenta P., DAmbra A., Camminatiello I. (Eds), Statistical Methods for Service Quality Evaluation, Book of short papers of IES 2019, Rome, Italy, July 4-5; pp. 431-434, Cuzzolin s.r.l., Napoli, ISBN: 978-88-86638-65-4;

7. **Fortuna, F.**, Di Battista, T. and Gattone, S.A. (2019), Two-fold data streams dimensionality reduction approach via FDA. In: Arbia, G., Peluso, S., Pini, A., Rivellini, G. (Eds), Smart Statistics for Smart Applications, Book of Short Papers SIS 2019, Milan, Italy, June, 18-21; pp.323-329, Pearson, ISBN: 9788891915108;

8. Di Battista T., **Fortuna F.**, Maturo F., Di Battista T. (2018) *Assessing diversity over time via functional data analysis and related tools*. In Book of Abstract of the 11th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) Working Group on Computational and Methodological Statistics (CMStatistics 2018), University of Pisa, Italy, 14 16 December 2018, ISBN 978-9963-2227-5-9;

9. Maturo F., **Fortuna F.**, Di Battista T. (2018) *Clustering Data Streams via Functional Data Analysis: a Comparison between Hierarchical Clustering and K-means Approaches*. In Book of Short Papers of The 49th Scientific Meeting of the Italian Statistical Society, Palermo, Italy, 20-22 June, Abbruzzo A., Brentari E., Chiodi M., Piacentino D. (Eds), ISBN: 9788891910233;

10. **Fortuna F.**, Maturo F. (2018) *Data streams reduction via functional time series analysis*. In Book of Abstracts of The 23rd International Conference on Computational Statistics (COMPSTAT 2018) and Summer Course and Satellite Workshop on Functional Data Analysis (CRoNoS FDA 2018), Iasi, Romania, 28 August - 2 September 2018, p. 60, ISBN: 978-9963-2227-3-5

11. Di Battista T., **Fortuna F.**, Maturo F. (2018) *Functional tools for increasing the accuracy of biodiversity assessment*. In Book of Abstracts of The 23rd International Conference on Computational Statistics (COMPSTAT 2018) and Summer Course and Satellite Workshop on Functional Data Analysis (CRoNoS FDA 2018), Iasi, Romania, 28 August - 2 September 2018, p. 54, ISBN: 978-9963-2227-3-5

12. Di Battista T., **Fortuna F.**, Maturo F. (2017) *Functional ANOVA for evaluating cognitive abilities and school performance*. In Book of Abstract of the 8th Scientific Conference on Innovation & Society. Statistical Methods for Evaluation and Quality, Naples, Italy, September 6th-7th 2017, ISBN: 978-88-8399-107-3

13. Di Battista T., **Fortuna F.**, Maturo F. (2015) *Recent advances in functional data stream classification*. In: Proceedings of the 60th ISI World Statistics Congress, Rio de Janeiro, Brazil, 26th-31th July 2015 Published by the International Statistical Institute, The Hague, The Netherlands, Pag.0-5, ISBN: 978-90-73592-35-3

14. Di Battista T., **Fortuna F.**, Maturo F. (2015) *Inference on functional biodiversity tools*. In Mola F., Conversano C. (eds.) Short Paper in Book of Abstract of the 10th Scienfitic Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, Flamingo Resort, Santa Margherita di Pula, Italy, October, 8th-10th 2015, CUEC, Sardegna Novamedia Soc. Coop., Pag.411-416, ISBN: 978-88-8467-874-4

15. P. Valentini, **F. Fortuna**, T. Di Battista, P. Giordani (2014) *Bayesian spatial SEM for lichen biodiversity*. In: Proceedings of the METMA VII and GRASPA 2014 Conference. Torino (IT), 10th-12th September 2014, Pag. 1-4

16. De Sanctis A., **Fortuna F.** (2014) *Functional classification on convex function spaces*. In: Proceedings of 47th Scientific Meeting of the Italian Statistical Society Cagliari Giugno 2014 Cagliari CUEC Cooperativa Universitaria Editrice Cagliaritana, Pag.1-9 ISBN:9788884678744

17. **Fortuna F.**, Maturo F. (2014) *Functional analysis of variance for parametric functional data*. In: Proceedings of 47th Scientific Meeting of the Italian Statistical Society Cagliari Giugno 2014 Cagliari CUEC Cooperativa Universitaria Editrice Cagliaritana, ISBN:9788884678744

18. Maturo F., **Fortuna F.** (2014) *Bell shaped fuzzy numbers associated with the Normal curve*. In: Proceedings of 47th Scientific Meeting of the Italian Statistical Society Cagliari Giugno 2014 Cagliari CUEC Cooperativa Universitaria Editrice Cagliaritana, ISBN:9788884678744

19. Di Battista T., **Fortuna F.**, Maturo F. (2014) *Parametric functional analysis of variance for fish biodiversity*. In: Proceedings of the 2014 International Conference on Marine and Freshwater Environments (IMFE 2014), St. John's, Canada, August 6th-8th 2014.

20. Di Battista T., **Fortuna F.**, Maturo F. (2014) *Environmental monitoring through biodiversity functional measures*, Conference of European Statistics Stakeholders Methodologists, Producers and Users of European Statistics, Rome, November 24th-25th, 2014, p 100

21. Ceccatelli C., Di Battista T., **Fortuna F.**, Maturo F. (2013) *I giochi olimpici per la promozione del ragionamento statistico e delle nuove tecnologie nella scuola*, Atti di Convegno La matematica nel 1° ciclo: aspetti didattici, sociologici e interdisciplinari, Chieti-Pescara, Italia, April 4th-6th 2013

22. Ceccatelli C., Di Battista T., **Fortuna F.** (2012) *Burnout, learning and self-esteem at school: an empirical study*. Proceedings of the 46TH Scientific Meeting of the Italian Statistical Society, Rome, Italy, June 20th-22th 2012, Cleup-Padova, ISBN 978-88-6129-882-8

23. Maretti, M., Fontanella, L., **Fortuna, F.** (2011) *The Social Dimensions of Changing Identities and Sexualities Across the World*. In Book of Abstracts of the ESA 10th Conference. Social Relations in Turbulent, September 7th-10th 2011, Geneve, Universit de Geneve, Svizzera, p 507, ISBN: 9782940386185

Softwares

1. Maturo F., **Fortuna, F.**, Di Battista T (2016). "BioFTF: Biodiversity Assessment Using Functional Tools". URL: https://www.r-project.org

Working papers

1. Maretti, M., Fontanella, L., **Fortuna, F.**, Sarra, A., (2012). The social dimension of changing in gender identities across the world. *Working papers series* 1/2012, Department of Law and Social Sciences, University of Chieti-Pescara

CONFERENCE TALKS

Presentations at international conferences as speaker

1. **CLADAG 2019**: 12-th Scientific Meeting Classification and Data Analysis, Cassino, Italy, 11-13 September 2019. Presentation: "Assessing social interest in burnout using functional data analysis through google trends", invited session;

2. **CLADAG 2019**: 12-th Scientific Meeting Classification and Data Analysis, Cassino, Italy, 11-13 September 2019. Presentation: "Biodiversity spatial clustering", contributed session;

3. **ASA 2019**: Scientific Conference on: Statistics for Health and Well-being, Brescia, Italy, 25-27 September 2019. Presentation: "A functional data analysis of Google Trends on health and wellness", contributed session;

4. **IES 2019**: Statistical Evaluation system at 360°: Techniques, thenologies and new frontiers, Rome, Italy, July, 4-5 2019. Presentation: "Evaluating tourism demand using search queries and functional models", invited session;

5. **SIS 2019**: Smart Statistics for Smart Applications, Milan, Italy, June, 18-21. Presentation: "Two-fold data streams dimensionality reduction approach via FDA". Invited session;

6. **ASA 2018**: *Statistics and the Assessment, Control and Scenarios of Risks. Applications to Food, Social and Health, Economic and Environmental Fields*, Scientific Conference of the ASA Association for Applied Statistics, Pescara, Italy, 12-14 September 2018. Presentation: "Functional time series approach to forecast big data: A dimensionality reduction approach".

7. **CRoNoS Workshop on Functional Data Analysis**: *2nd Satellite CRoNoS Workshop on Functional Data Analysis*, CRoNoS, 31 August - 2 September 2018, Alexandru Ioan Cuza University of Iasi, Iasi, Romania. Presentation: "Data stream reduction via functional time series analysis" - Invited Talk.

8. **S&DS 2018**: *Statistics and Data Science:new developments for Business and Industrial Applications*, international joint meeting SIS-SDS Group and *it*ENBIS, Turin, May, 24th-25th , 2018. Presentation: "Google Trends as data sources for forecasting Official Statistics" - Specialized session:"New techniques for large scale official statistics analysis and visualization" - Invited talk.

9. **IES 2017**: *Innovation & Society, Statistical Methods for Evaluation*, Naples, Italy, September, 6th-7th 2017. Presentation: "Functional ANOVA for evaluating cognitive abilities and school performance".

10. **2017**: *II International Workshop on Advances in Functional Data Analysis*, Getafe, Madrid, Spain, March 23th-24th 2017. Presentation: "Ecological studies in a functional framework" - Invited talk.

11. **CLADAG 2015**: *10TH Scienfitic Meeting of the Classification and Data Analysis Group of the Italian Statistical Society*, Santa Margherita di Pula, Cagliari, Italy, October 8th-10th 2015. Presentation: "Inference on functional biodiversity tools" - Solicited session.

12. **2016**: *4TH International Conference on Business Administration and Economics*, Resita, Romania, October 14th-15th 2016. Presentation: "Recent advances in IRT models".

13. **SIS 2014**: *47TH Scientific meeting of the Italian Statistical Society*, Cagliari, Italy, June 11th-13th 2014. Presentation: "Functional classification on convex function spaces" - Specialized session: - Clustering Real time data streams.

14. **SIS 2014**: *47TH Scientific meeting of the Italian Statistical Society*, Cagliari, Italy, June 11th-13th 2014. Presentation: "Functional analysis of variance for parametric functional data" - Poster session.

15. **CESS 2014**: *The International Conference of European Statistics Stakeholders Methodologists, Producers and Users of European Statistics*, Rome, Italy, November 24th-25th 2014. Presentation: "Environmental monitoring through biodiversity functional measures" - Invited talk.

16. **MATHESIS 2013**: *La matematica nel 1° ciclo: aspetti didattici, sociologici e interdisciplinari*, Chieti-Pescara, Italia, April 4th-6th 2013. Presentation: "I giochi olimpici per la promozione del ragionamento statistico e delle nuove tecnologie nella scuola".

17. **MATHESIS 2012**: *Innovazioni didattiche e formazione degli insegnanti. Ruolo dell'universitá e della Mathesis*, Chieti-Pescara, Italia, May 24th-26th 2012. Presentation: "Giochi statistici ed innovazione didattica".

18. **WCLTA 2012**: *3 World conference on Learning, Teaching & Administration*, Bruxelles, Belgium, October 25th-27th 2012. Presentation: "Best practice to improve the learning of statistics: the case of the National Olympics of Statistics in Italy."

19. **SIS 2012**: *46TH Scientific meeting of the Italian Statistical Society*, Rome, Italy, June 20th-22th 2012. Presentation: "Burnout, learning and self-esteem at school: an empirical study" - Contributed session: Methods and applications in educational statistics.

Presentations at international conferences as co-author

1. **DIME 2020**: International conference on Distributions and Inequality Measures in Economics, Milan, 20-21 February 2020. Presentation: "A functional evaluation of income inequality", contributed session;

2. **ISI 2019**: 62nd ISI World Statistics Congress, Kuala Lumpur, Malaysia, 18-23 August 2019. Presentation: "Inspecting ecological communities' structure via Functional Data Analysis", invited session;

3. **CLADAG 2019**: 12-th Scientific Meeting Classification and Data Analysis, Cassino, Italy, 11-13 September 2019. Presentation: "Unsupervised fuzzy classification for detecting similar functional objects", invited session;

4. **IES 2019**: Statistical Evaluation system at 360°: Techniques, thenologies and new frontiers, Rome, Italy, July, 4-5 2019. Presentation: "Cluster Analysis for mixed data: an application to credit risk evaluation";

5. **ITACOSM 2019**: 6th Italian Conference on Survey Methodology. Presentation: "Estimating co-occurences index in finite populations";

6. **CMStatistics 2018**: *11th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) Working Group on Computational and Methodological Statistics (CMStatistics 2018)*, 14 16 December 2018, University of Pisa, Italy.

7. **CRoNoS Workshop on Functional Data Analysis**: *2nd Satellite CRoNoS Workshop on Functional Data Analysis*, CRoNoS, 31 August - 2 September 2018, Alexandru Ioan Cuza University of Iasi, Iasi, Romania. Presentation: "Functional tools for increasing the accuracy of biodiversity assessment" - Invited Talk.

8. **TIES 2018**: *The 28th Annual Conference of the International Environmetrics Society*, TIES, July, 16-21, 2018, Guanajato, Mexico. Presentation: "Functional tools for increasing the accuracy of biodiversity assessment" - Invited Talk.

9. **SIS 2018**: *49th Scientific meeting of the Italian Statistical Society*, SIS, June 20-22, 2018, University of Palermo, Italy. Presentation: "Clustering Data Streams via Functional Data Analysis: a Comparison between Hierarchical Clustering and K-means Approaches".

10. **ENBIS 2017**: *17th Annual Conference of the European Network for Business and Industrial Statistics*, Naples, Italy, September, 9th-14th , 2017. Presentation: "Clustering Functional Data Stream: Theory and Application for the Analysis of Web Data".

11. **2016**: *International Workshop on "Statistical inference for assessing and monitoring natural resources"*, Siena, Italy, November 10th-11th 2016. Presentation: "Sampling an epiphytic lichen community with an adaptive sampling design".

12. **ISI 2015**: *60TH World Statistics Congress*, Rio de Janeiro, Brazil, July 26th-30th 2015. Presentation: "Recent advances in functional data stream classification" - Specialized session: - High frequency processing and streaming data analysis.

13. **SIS 2014**: *47TH Scientific meeting of the Italian Statistical Society*, Cagliari, Italy, June 11th-13th 2014. Presentation: "Bell shaped fuzzy numbers associated with the normal curve" - Poster session.

14. **IMFE 2014**: *The International Conference on Marine and Freshwater Environments*, St. John's, Canada, August 6th-8th 2014. Presentation: "Parametric functional analysis of variance for fish biodiversity".

15. **METMA VII - GRASPA 14**: *Joint meeting METMA VII and GRASPA 14*, Torino, Italy, September 10th-12th 2014. Presentation: "Bayesian spatial SEM for lichen biodiversity" - Poster session.